

***Rodger Reiswig, SET***

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***Co-Chair Codes & Standards Committee***

***AFAA Webinar Series***

***September 23, 2011***

***NFPA 72 - 2010***

***National Fire Alarm & Signaling Code***

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## Webinar Calendar

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**September 23, 2011, 1:00pm - 2:30pm EST**

**"NFPA 72-2010 Changes in the National Fire Alarm and Signaling Code".**

Presented by Rodger Reiswig, SET. Sponsored by: Simplex Grinnell

**This is a FREE webinar** to all attendees thanks to this month's sponsor Simplex Grinnell. Register early, space will be limited. However, if a certificate of attendance for continuing education is desired, there will be a \$20 administration fee. To get your certificate please click [here](#).

The 2010 NFPA 72, National Fire Alarm and Signaling Code, has changed significantly. Discover what the changes are and why they were made. NFPA 72-2010 is being adopted much earlier than past editions of the Code.

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**September 26, 2011, 1:00pm - 2:00pm EST**

**AFAA Electronic Forms Webinar. IT'S FREE**

AFAA will host a free 1 hour webinar to explain more about how these electronic forms work. This is not a sales promotion, it is simply to further explain the process so you can see how using these forms will make your business more efficient.

The AFAA has a strategic partnership with BuildingReports to provide the fire and life safety industry with electronic versions of AFAA's inspection forms. Members will be able to maximize efficiency with AFAA's new electronic forms, which include NFPA 2002, 2007 and 2010 versions of the Inspection and Testing and Record of Completion forms. Unlike paper forms, the new AFAA electronic forms will be dated for easy tracking and conveniently stored online for immediate access and distribution. Users can access forms from their PC or Mac, 24/7 from any location for flexible inspection management. AFAA's electronic forms can be completed by users online or on compatible Palm and Windows Mobile smartphones and hand-held devices.

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## Recorded Webinars -

### [Purchase Now!](#) "Fire Alarm System Testing and Inspection"

Presented by Merton Bunker. Sponsored by SDI

Inspection, testing and maintenance (ITM) of fire alarm systems is an overlooked aspect of fire protection system maintenance. This webinar will provide attendees with a review of code requirements for the inspection, testing, and maintenance of fire alarm systems. This webinar will explore the general requirements for inspection, testing, and maintenance. This session will also review the methods and frequency of inspections and tests of fire alarm systems and their components. Attendees will explore the requirements found in Chapter 14 of NFPA 72, National Fire Alarm and Signaling Code.

### [Purchase Now!](#) How to Properly Use a Digital Multimeter When Testing and Troubleshooting Fire Alarm Systems.

Presented by Frank Rothausler.

The Digital Multimeter- Proper use and understanding of the "Technicians Best Friend" - in fire alarm trouble shooting, test and inspection, and installation. This class is recommended as a prerequisite to future ohms law and field troubleshooting webinars. Please have each student bring their DMM to this session.

### [Purchase Now!](#) "Jump Into Fire"

Presented by Mike Baker, Training Director, AFAA

"Jump Into Fire!" was developed in response to requests to provide more information regarding selling fire alarm services and other related opportunities. The seminar reviews codes and standards, fire alarm system fundamentals, how to define your market segments, selling testing &

# Take Fire out of NFPA 72?

## Why the change?

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NFPA 72 now covers many issues in addition to Fire Alarm Systems.

- Combination Systems
- Video Imaging Detection
- Carbon Monoxide Detection
- Supervisory Service of Sprinkler Control Valves
- Water Level Supervisory – 5.15.3
- Water Temperature Supervisory – 5.15.4
- Room Temperature Supervisory – 5.15.5
- Fire Extinguisher Monitoring – 6.8.4.11



# NFPA TCC Directive for 2010

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Remove the word fire wherever possible

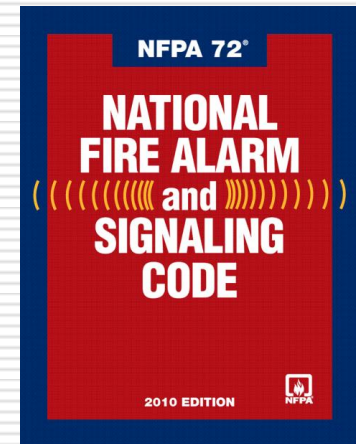
- Chapter 4 – Fundamentals of Fire Alarm Systems
- Chapter 8 – Supervising Station Fire Alarm Systems
- 8.3.7.1.1 Alarm signals initiated by manual fire alarm boxes, automatic fire detectors, waterflow from the automatic sprinkler system, or actuation of other fire suppression system(s) or equipment shall be treated as fire alarms.



# NFPA 72 Name Change?

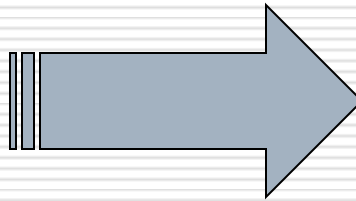
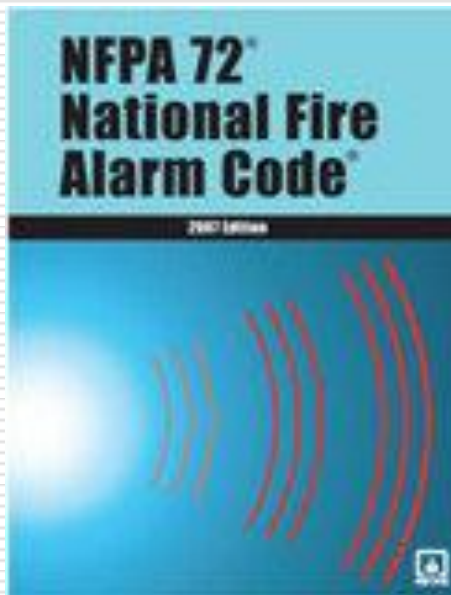
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- Today – National Fire Alarm Code
- New Name
  - National Fire Alarm and Signaling Code



# What is changing in 2010 of 72?

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# NFPA 72, 2010

## Chapter Re-Organization

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2007 edition had 11 Chapters

2010 edition will have 29 Chapters

- Administrative Chapters
- Support Chapters
- System Chapters
- Usability Annexes



# NFPA 72 Chapters – 2007

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- Chapters 1 – 4 Administration, Definitions & Fundamentals
- Chapter 5 – Initiating Devices
- Chapter 6 – Protected Premises Fire Alarm Systems
- Chapter 7 – Notification Appliances
- Chapter 8 – Supervising Stations
- Chapter 9 – Public Fire Alarm Reporting Systems
- Chapter 10 – Inspection, Testing & Maintenance
- Chapter 11 – Single & Multiple Station Alarms Household Systems



# Administrative Chapters

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- Chapter 1 Administration – 2007
- Chapter 2 Referenced Publications – 2007
- Chapter 3 Definitions – 2007
- Chapter 4 Reserved
- Chapter 5 Reserved
- Chapter 6 Reserved
- Chapter 7 Reserved
- Chapter 8 Reserved
- Chapter 9 Reserved



# Support Chapters

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- Chapter 10 Fundamentals – 2007 Chapter 4
- Chapter 11 Reserved
- Chapter 12 Circuits and Pathways – New
- Chapter 13 Reserved
- Chapter 14 Insp, Test & Maint. – 2007 Chapter 10
- Chapter 15 Reserved
- Chapter 16 Reserved
- Chapter 17 Initiating Devices – 2007 Chapter 5
- Chapter 18 Notification Appliances – 2007 Chapter 7
- Chapter 19 Reserved



# Systems Chapters

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- Chapter 20 Reserved
- Chapter 21 Emergency Control Functions – New
- Chapter 22 Reserved
- Chapter 23 Protected Premises Fire Alarm Systems –  
2007 Chapter 6
- Chapter 24 Emergency Communications Systems – New
- Chapter 25 Reserved



# Systems Chapters

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- Chapter 26 Supervising Station Alarm Systems – 2007 Chapter 8
- Chapter 27 Public Emergency Alarm Reporting Systems – 2007 Chapter 9
- Chapter 28 Reserved
- Chapter 29 Single- and Multiple-Station Alarms and Household Fire Alarm Systems – 2007 Chapter 11



# Usability

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- Annex A Explanatory Material
- Annex B Engineering Guide for Automatic Fire Detection
- Annex C System Performance Design Guide
- Annex D Speech Intelligibility
- Annex E NEMA SB 30, Fire Service Annunciator and Interface
- Annex F Sample Ordinance for Adopting NFPA 72
- Annex G Informational References
- Annex H Cross References



# Fundamentals

## Chapter 10

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- The Chapter has been renamed Fundamentals. “Fire Alarm” deleted.
- The Chapter includes requirements for Emergency Communications Systems.
- The word “fire” has been removed throughout in relation to fire alarm systems, as the Code also covers Emergency Communications Systems.



# Fundamentals

## Chapter 10

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### **10.4 Personnel Qualifications.**

#### **10.4.1 System Designer.**

#### **10.4.2 System Installer.**

#### **10.4.3 Inspection, Testing, and Maintenance Personnel. (SIG-TMS)**

#### **10.4.4 Supervising Station Operators. (SIG-SSS)**



# Fundamentals

## Chapter 10

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**10.5.6.1.2** Secondary circuits that provide power to the control unit and are not integral to the unit shall be protected against physical damage.

- *Added the protection of secondary power circuits.*



# Fundamentals

## Chapter 10

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### 10.5.6.3 Capacity

**10.5.6.3.1.(A)** Battery calculations shall include a 20 percent safety margin to the calculated amp-hour rating

- *This provides alignment with UL 864 9<sup>th</sup> edition and the realization that over the life of a battery, it will decay.*



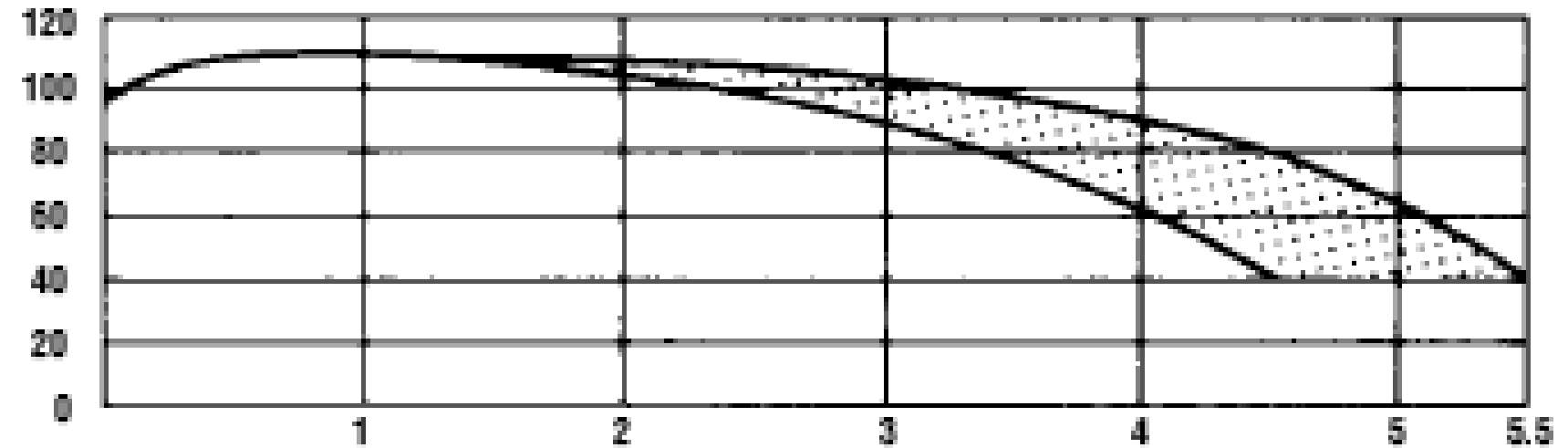
# FLOAT SERVICE LIFE

TESTING CONDITIONS: FLOATING VOLTAGE 2.25 TO 2.30V/CELL

AMBIENT TEMPERATURE: 20°C TO 22°C (64°F TO 72°F)

PERCENTAGE OF CAPACITY AVAILABLE

(AH%)



LIFE (YEARS)

# Fundamentals

## Chapter 10

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**10.6 Signal Priority.** The priority of signals shall be in accordance with 10.6

**10.6.1** ECS priority signals when evaluated by stakeholders through a risk analysis in accordance with 24.4.2.2 shall be permitted to take precedence over all other signals.

➤ *This includes fire alarm signals.*



# Fundamentals

## Chapter 10

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### **10.15 Protection of Fire Alarm Systems.**

- *Exception (2) has been removed. This exempted the requirement for smoke or heat detector protecting the FACU, NAC's or DACT's if the building is fully sprinklered per NFPA 13.*



# Fundamentals

## Chapter 10

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**10.18.2.1.2.7** Where not stored at the main fire alarm control unit, the location of these documents shall be identified at the main fire alarm control unit.

- *Requires the location of the Record of Completion to be identified at the FACU.*



# Fundamentals

## Chapter 10

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**10.18.2.1.2.8** If the documents are located in a separate enclosure or cabinet, the separate enclosure or cabinet shall be prominently labeled **FIRE ALARM DOCUMENTS**.



# Fundamentals

## Chapter 10

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### Record of Completion.

- *Has been expanded to 12 pages to enhance its usability.*

**FIRE ALARM AND EMERGENCY COMMUNICATION SYSTEM RECORD OF COMPLETION**

*To be completed by the system installation contractor at the time of system acceptance and approval.*

*It shall be permitted to modify this form as needed to provide a more complete and/or clear record.*

*Insert N/A in all unused lines.*

*Attach additional sheets, data, or calculations as necessary to provide a complete record.*

**1. PROPERTY INFORMATION**

Name of property: \_\_\_\_\_

...



# Circuits and Pathways - Chapter 12

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- Wiring tables being replaced with a new system for specifying wiring redundancy and survivability
- Includes removal of all of the old class and style tables and designations and the implementation of new Classes that will be applicable to any type of fire alarm circuit, not just SLCs, IDCs, and NACs as in the past.
- The term "pathway" is used instead of circuit to account for the use of optical fibers, radio, hardwires, and anything else that may appear in the marketplace.



# Circuits and Pathways - Chapter 12

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## **12.1 Application.**

**12.1.1** Paths (interconnections) shall be designated based upon the performance characteristics defined in this chapter.

## **12.2 Purpose.**

**12.2.1** This chapter describes the performance and survivability characteristics for defined class designations of signaling paths (interconnections).



# Circuits and Pathways - Chapter 12

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**12.2.2** A path's (interconnection's) class designation is dependant on the path's (interconnection's) capability to continue to operate during specified fault conditions.

**12.2.3** The designation of the paths can also include the performance of the path (interconnection) to survivability from attack by fire.



# Circuits and Pathways - Chapter 12

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## 12.4.2.1 Pathway Class Designations

Pathways shall be designated as Class A, B, C, D, E, or X, depending on their performance as follows:

**Class A\*.** A pathway with a redundant path. Operational capability continues past a single break. Conditions that affect the intended operation of the path are annunciated.

**Class B.** A pathway without a redundant path. Operational capability stops at a break. Conditions that affect the intended operation of the path are annunciated.



# Circuits and Pathways - Chapter 12

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**Class C.** One or more pathways where operational capability is verified via end-to-end communication, but the integrity of individual paths is not monitored. A loss of end-to-end communication is annunciated.

**Class D.** A pathway that has fail-safe operation, where no fault is annunciated, but the intended operation is performed instead.



# Circuits and Pathways - Chapter 12

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**Class E.** A pathway which is not monitored for integrity.

**Class X.** A pathway with a redundant path. Operational capability continues past a single break or short-circuit. Conditions that affect the intended operation of the path are annunciated.



# Circuits and Pathways - Chapter 12

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Survivability has also been assigned "levels" in recognition that one size does not fit all. For example:

## **12.4.1 Pathway Survivability Level 0**

Pathway survivability Level 0 shall consist of the following:

- a. Pathways shall comply with the requirements of NFPA 70 Articles 760, 770 or 800



# Circuits and Pathways - Chapter 12

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## **12.4.2 Pathway Survivability Level 1**

Pathway survivability Level 1 shall consist of the following:

- a. Pathways in buildings fully protected by an automatic sprinkler system in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems and with the interconnecting wiring or cables installed in metal raceways



# Circuits and Pathways - Chapter 12

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## **12.4.3 Pathway Survivability Level 2**

Pathway survivability Level 2 shall consist of the following:

- a. 2-hour fire rated circuit integrity (CI) cable or,
- b. 2 hour fire rated cable system (electrical circuit protective system (s) or,
- c. 2-hour fire rated enclosure or protected area or,
- d. 2-hour performance alternatives approved by the authority having jurisdiction



# Circuits and Pathways - Chapter 12

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## 12.4.4 Pathway Survivability Level 3

Pathway survivability Level 3 shall consist of the following:

- a. Pathways in buildings fully protected an automatic sprinkler system in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems and 2-hour fire rated circuit integrity (CI) cable or,
- b. Pathways in buildings fully protected an automatic sprinkler system in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems and 2 hour fire rated cable system (electrical circuit protective system(s)) or,



# Circuits and Pathways - Chapter 12

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c. Pathways in buildings fully protected an automatic sprinkler system in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems and 2-hour fire rated enclosure or protected area or,

d. Pathways in buildings fully protected an automatic sprinkler system in accordance with NFPA 13, Standard for the Installation of Sprinkler Systems and 2-hour performance alternatives approved by the authority having jurisdiction



# Circuits and Pathways - Chapter 12

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## Pathway Class Designations

➤ A, B, C, D, E, X

## Survivability Levels

➤ 0, 1, 2, 3



# Inspection, Testing, and Maintenance

## Chapter 14

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- Includes Emergency Communications Systems.
- Revised requirements for the testing of intelligible voice communications.
- New allowance for automated testing.
- New requirements for the testing of gas detectors.



# Inspection, Testing, and Maintenance

## Chapter 14

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- New requirement for the replacement of combination smoke/carbon monoxide alarms after ten years.
- New requirements for the commissioning and testing of in-building emergency radio communication systems.



# Inspection, Testing, and Maintenance

## Chapter 14

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### **14.2.4 System Documentation.**

**14.2.4.1** The provided documentation shall include the current revisions of all fire alarm software and the revisions of software of any systems with which the fire alarm software interfaces.



# Inspection, Testing, and Maintenance

## Chapter 14

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**14.2.4.2** The revisions of the fire alarm software, and the revisions of the software in the systems with which the fire alarm software interfaces, shall be verified for compatibility in accordance with the requirements of 23.2.2.1.1.



# Inspection, Testing, and Maintenance

## Chapter 14

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### **14.2.7 Automated Testing.**

**14.2.7.1** Automated testing arrangements that provide equivalent means of testing devices to those specified in Table 14.4.2.2 at a frequency at least equivalent to those specified in Table 14.4.5 shall be permitted to be used to comply with the requirements of this chapter.

**14.2.7.2** Failure of a device on an automated test shall result in an audible and visual trouble signal.



# Inspection, Testing, and Maintenance

## Chapter 14

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**14.2.8 Performance-Based Inspection and Testing.** As an alternate means of compliance, subject to the authority have jurisdiction, components and systems shall be permitted to be inspected and tested under a performance-based program.



# Inspection, Testing, and Maintenance

## Chapter 14

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**14.4.4** Gas detectors shall be inspected, tested, and maintained in accordance with the manufacturers' published instructions.

- *Correlates with the addition of gas detection in Chapter 17.*



# Inspection, Testing, and Maintenance

## Chapter 14

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### **14.4.7 Household Fire Alarm Systems.**

### **14.4.8 Replacement of Smoke Alarms in One- and Two-Family Dwellings.**

**14.4.8.2** Combination smoke/carbon monoxide alarms shall be replaced when the end-of-life signal activates or 10 years from the date of manufacture, whichever comes first.

- *The Code now recognizes that these type of alarms are being used.*



# Inspection, Testing, and Maintenance

## Chapter 14

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### **14.4.12 In-Building Emergency Radio Communication Systems.**

*This section was expanded from 2007 to cover:*

- *Signal level testing.*
- *System commissioning testing.*
- *Test procedures*
- *Measurement parameters*
- *Acceptance Test*
- *Annual Tests*



# Inspection, Testing, and Maintenance

## Chapter 14

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### **Record of Inspection and Testing**

- *Has been expended to 12 pages*
- *Includes mass notification system interface*



# Initiating Devices

## Chapter 17

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**17.4.6** Initiating devices shall be installed in all areas, compartments, or locations where required by other NFPA codes and standards or as required by other governing laws, codes, or standards.

- *This replaces AHJ, and has been added through the body of NFPA 72®.*



# Initiating Devices

## Heat-Sensing Fire Detectors

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### **17.6.2.2.2 Operating Temperature.**

**17.6.2.2.2.2** Heat-sensing fire detectors where the alarm threshold is field adjustable shall be marked with the temperature range.

**17.6.2.2.2.3** Spot-type heat detectors shall also be marked with their RTI.



# Initiating Devices

## Smoke-Sensing Fire Detectors

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### **17.7.1.11 Protection During Construction.**

**17.7.1.11.1** Where detectors are installed for signal initiation during construction, they shall be cleaned and verified to be operating in accordance with the listed sensitivity, or they shall be replaced prior to the final commissioning of the system.



# Initiating Devices

## Smoke-Sensing Fire Detectors

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**17.7.1.11.2** Where detectors are installed but not operational during construction, they shall be protected from construction debris, dust, dirt and damage in accordance with the manufacturer's recommendations and verified to be operating in accordance with the listed sensitivity, or they shall be replaced prior to the final commissioning of the system.



# Initiating Devices

## Smoke-Sensing Fire Detectors

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**17.7.1.11.3** Where detection is not required during construction they shall not be installed until after all other construction trades have completed cleanup.

➤ *This is an expansion over previous text.*



# Initiating Devices

## Smoke-Sensing Fire Detectors

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### 17.7.3.2 Spot-Type Smoke Detectors

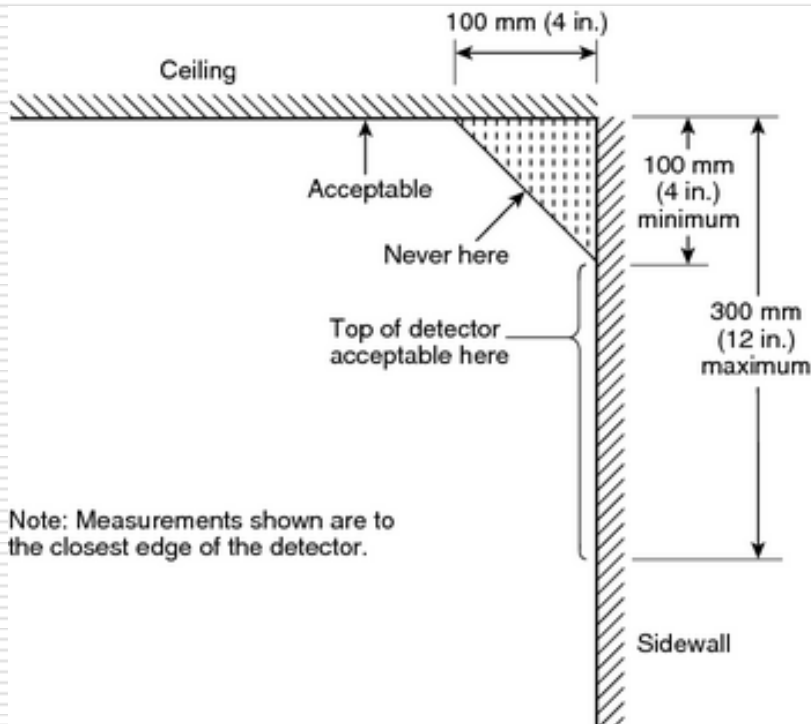
17.7.3.2.1 Spot-type smoke detectors shall be located on the ceiling or, if on a sidewall, between the ceiling and 12 in. (300 mm) down from the ceiling to the top of the detector.

➤ *The 4 inch restriction has been removed.*

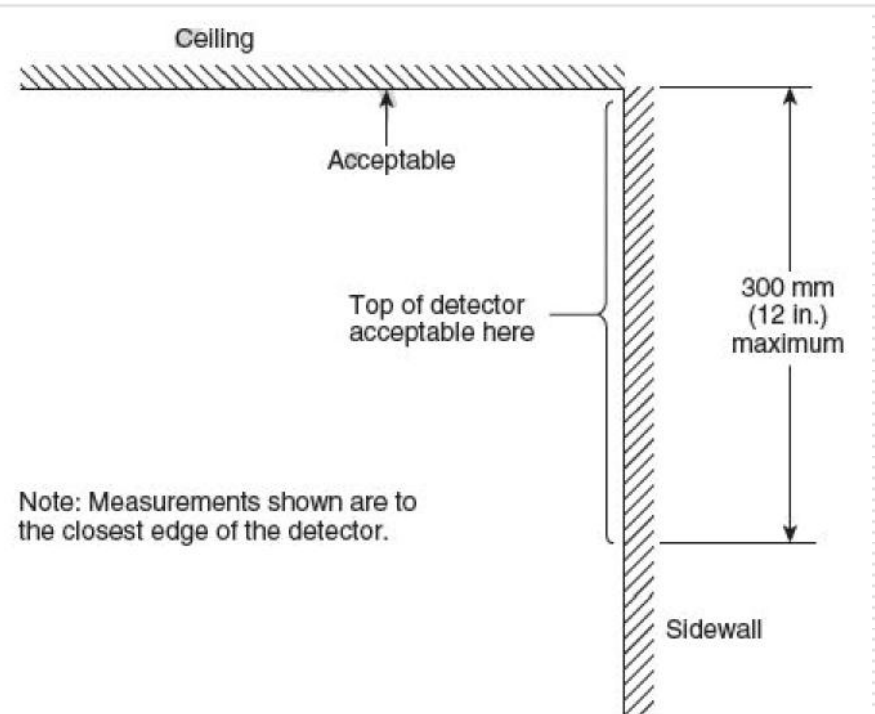


# Spacing of Smoke Sensors

## 72, 2007



## 72, 2010



# Notification Appliances

## Chapter 18

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### 18.4.2 Distinctive Evacuation Signal

- *Moved from Protected Premises to Notification Appliances.*



# Notification Appliances

## Chapter 18

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### **18.4.5 Sleeping Area Requirements.**

**18.4.5.3** Effective January 1, 2014, where audible appliances are provided to produce signals for sleeping areas, they shall produce a low frequency alarm signal that complies with the following:

- (1) The alarm signal shall be a square wave or provide equivalent awakening ability.
- (2) The wave shall have a fundamental frequency of 520 Hz ± 10 percent.



# Notification Appliances

## Chapter 18

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**18.4.10 Voice Intelligibility.** Within the acoustically distinguishable spaces (ADS) where voice intelligibility is required, voice communications systems shall reproduce prerecorded, synthesized, or live (e.g., microphone, telephone handset, and radio) messages with voice intelligibility.



# Notification Appliances

## Chapter 18

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**18.4.10.1** Acoustically distinguishable spaces (ADS) shall be determined by the system designer during the planning and design of all emergency communications systems.

**18.4.10.2** Each ADS shall be identified as requiring or not requiring voice intelligibility.

**18.4.10.3** Where required by the authority having jurisdiction, ADS assignments shall be submitted for review and approval.



# Notification Appliances

## Chapter 18

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**3.3.2\*** Acoustically Distinguishable Space (ADS).  
An emergency communications system notification zone, or subdivision thereof, that might be an enclosed or otherwise physically defined space, or that might be distinguished from other spaces because of different acoustical, environmental, or use characteristics, such as reverberation time and ambient sound pressure level. (SIG-NAS)



# Emergency Control Functions and Interfaces – Chapter 21

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- Used to be Fire Safety Functions in Chapter 6
- Name changed to include non-fire alarm emergency functions
- Includes requirements for elevator recall

# Protected Premises

## Chapter 23

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- All voice communications material has been moved from chapter 6 and placed in chapter 24
- Fire Safety Functions have also moved from chapter 6 and are now in chapter 21
  - Generalizes material in chapter 21 and allows for both fire alarm and mass notification correlation



# Protected Premises

## Chapter 23

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- Requirements for combination systems revised
  - Sharing wiring for robust systems will be easier
- Language added to Annex confirming that the Chapter is applicable to fire alarm systems used for mass notification.
- Language revised to not limit application to fire emergencies only.



# Supervising Station Fire Alarm Systems – Chapter 26

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## 26.6.3.2.1.4 Transmission Channels.

(A)\* A system employing a DACT shall employ one telephone line (number). In addition, one of the following transmission means shall be employed:



# Supervising Station Fire Alarm Systems – Chapter 26

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- (1) A second telephone line (number)
- (2) A cellular telephone connection
- (3) A one-way radio system
- (4) A one-way private radio alarm system
- (5) A private microwave radio system
- (6) A two-way RF multiplex system
- (7) A transmission means complying with  
26.6.3.1



# Supervising Station Fire Alarm Systems – Chapter 26

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## **26.6.3.1.4 Communications Integrity**

Provision shall be made to monitor the integrity of the transmission technology and its communications path. The following requirements shall apply:

- (1) Any failure shall be annunciated at the supervising station within 5 minutes of the failure.
- (2) If communications cannot be established with the supervising station, an indication of this failure to communicate shall be annunciated at the protected premises.



# Supervising Station Fire Alarm Systems – Chapter 26

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- (3) If a portion of the communications path cannot be monitored for integrity, a redundant communications path shall be provided.
- (4) Provision shall be made to monitor the integrity of the redundant communications path.
- (5) Failure of both the primary and redundant communications paths shall be annunciated at the supervising station within not more than 24 hours of the failure.



# Public Emergency Alarm Reporting Systems - Chapter 27

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- 2007 Edition
  - Public Fire Reporting
- 2010 Edition
  - Public Emergency Alarm Reporting Systems
    - changes in scope to clearly identify requirements already covered by the chapter and now include “emergency alarms” in addition to fire.



# Public Emergency Alarm Reporting Systems - Chapter 27

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- Clarification of the way users should apply Chapter
- Declaring in 27.1.7 that when a protected premises transmits signals to a communications center via a public emergency alarm reporting system, the entire alarm system becomes classified as an auxiliary alarm system.
- Section 27.4.1.1 describes the types of communications pathways that a public emergency alarm reporting system may use.
- Section 27.4.1.2 grants permission to use a public emergency alarm reporting system with emergency communications systems covered by Chapter 24



# Single- and Multiple-Station Alarms and Household Fire Alarm Systems – Chapter 29

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- **29.3.7.1\*** Where notification for the hearing impaired is required by governing laws, codes or standards, or where otherwise provided in sleeping rooms occupied by people with mild to severe hearing loss, a low frequency alarm signal shall be provided. The low frequency alarm signal output shall comply with the following:



# Single- and Multiple-Station Alarms and Household Fire Alarm Systems – Chapter 29

---

- (1) The alarm signal shall be a square wave or provide equivalent awakening ability.
- (2)\* The wave shall have a fundamental frequency of 520 Hz + / - 10% .
- (3) The minimum sound level at the pillow shall be 75 dBA, or 15 dB above the ambient noise level, whichever is greater.



# Single- and Multiple-Station Alarms and Household Fire Alarm Systems – Chapter 29

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- **TIA 10-3**
- **3.3.141\* Managed Facilities-based Voice Network (MFVN).**
- A physical facilities-based network capable of transmitting real time signals with formats unchanged that is managed, operated, and maintained by the service provider to ensure service quality and reliability from the subscriber location to public switched telephone network (PSTN) interconnection points or other MFVN peer networks.



# Single- and Multiple-Station Alarms and Household Fire Alarm Systems – Chapter 29

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**29.8.2.2 (5)** In multiple station configurations that are comprised with multiple purpose alarms, smoke only, and CO only alarms, if the multiple purpose alarm detects an abnormal amount of CO the product will need to sound the CO alarm signal on the remaining interconnected alarms. The smoke only alarm will have an option of remaining silent or to sound the CO alarm signal.



# Mass Notification and NFPA

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# Chapter reference for MNS in NFPA 72, 2007

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Chapters 4 thru 11 currently ends with:

**Mass Notification Systems.** See Annex E.



# NFPA and Mass Notification

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NFPA 72, 2007 Annex E, Mass Notification Systems replaced by Chapter 24 **Emergency Communications Systems**

- Content from 2007 edition Chapter 6, Protected Premises Fire Alarm Systems
  - Emergency Voice Alarm Communications
  - Two-Way Communication Service



# NFPA and Mass Notification

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## Chapter 24 Emergency Communications Systems

### **24.1 Introduction**

Emergency Communications Systems (ECS) shall consist of two classifications of systems, one-way and two-way.



# NFPA and Mass Notification

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Chapter 24 Emergency Communications Systems

## **24.2 One-Way Emergency Communications Systems**

### **24.2.1 In-Building Emergency Voice/Alarm Communications Systems**

**24.2.1.1\*** Section 24.2.1 shall be used in the design and application of emergency voice/alarm communications for fire alarm systems.



# NFPA and Mass Notification

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## Chapter 24 Emergency Communications Systems

### **24.2.1.8 Priority.**

**24.2.1.8.1** When the fire alarm system has been activated, and mass notification has been given priority, an audible and visible indication shall be provided at the building fire alarm control unit.

**24.2.1.8.2** The fire alarm system shall not automatically override emergency mass notification messages.



# NFPA and Mass Notification

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Chapter 24 Emergency Communications Systems

## **24.2.1.11\* Relocation and Partial Evacuation.**

The requirements of 24.2.1.11 shall apply only to systems used for relocation or partial evacuation.



# NFPA and Mass Notification

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- Chapter 24 is a complete set of requirements for emergency communications systems – including requirements from other chapters by reference.
- Will include EVAC and Two-way communications relocated from Chapter 6.
  - Fire Fighter phones
  - Fire Alarm Voice Evacuation



# Strobes and NFPA

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# One-Way ECS In-Building MNS

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- Operation of MNS system is based on the emergency response plan
- Intelligibility of voice messages are required to meet the requirements of chapter 18 (notification)
- Visual notification to be completed through strobes, textual, graphic or video displays
- Re-labeling of existing strobes labeled fire is required to be completed in a manufacturers approved method



# One-Way ECS Wide Area MNS

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- High powered speaker arrays (HPSA) for large outdoor areas
- Mounted at heights to prevent hearing damage to nearby persons
- Are not permitted to provide mass notification to occupants inside structures or buildings



# One-Way ECS Distributed Recipient MNS

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- Communication to a wide range of targeted individuals or groups
- Systems include mass dialing systems, reverse 911, email, SMS (mobile phone text messages), and other directed communication methods



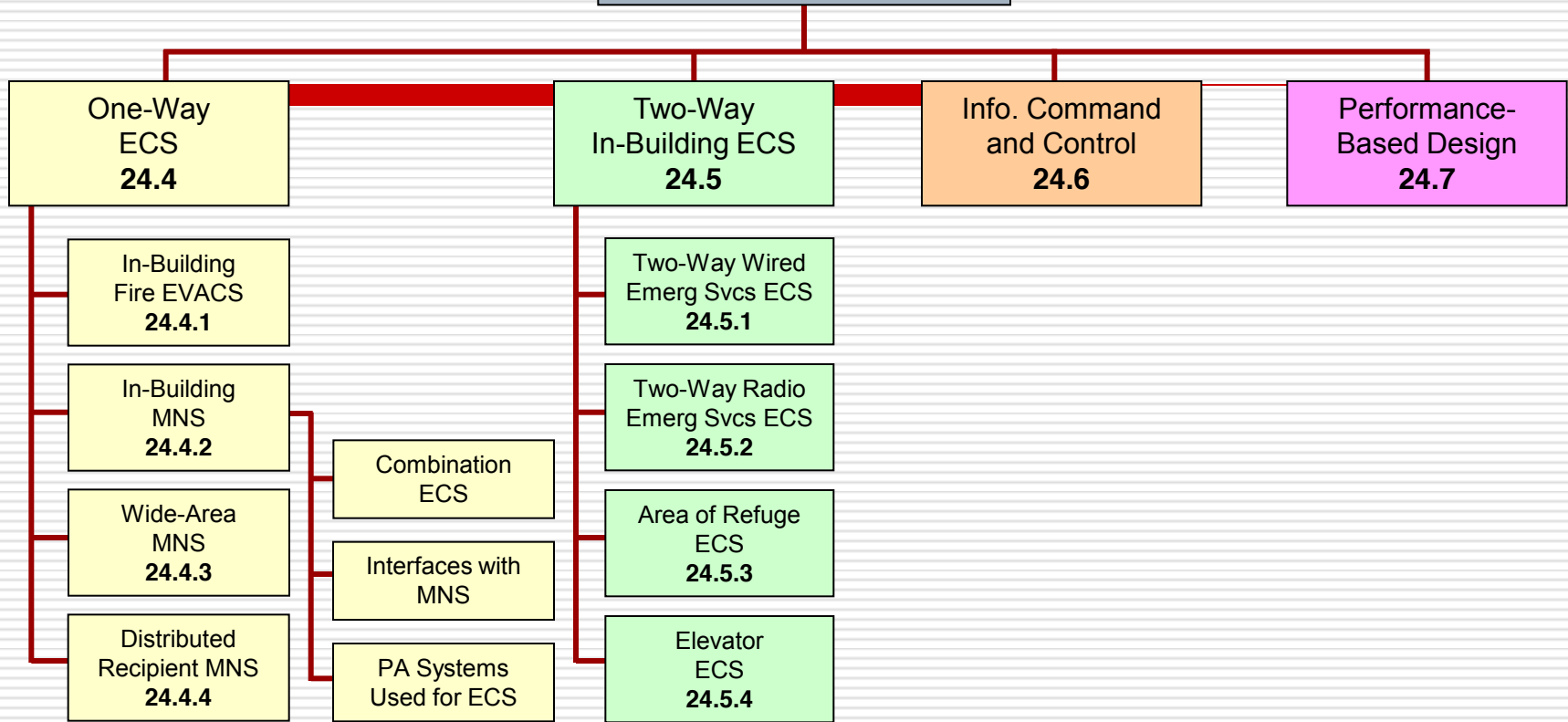
# Two-Way ECS Radio Emergency Services

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- In Building amplifiers
  - Bidirectional amplifiers



Emergency Communications  
Systems (ECS)  
**Chapter 24**  
24.1, 24.2, 24.3



# Questions?

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